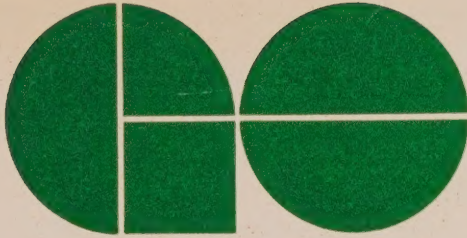


CA20N
HY
-1969
G57

Government
Publications

CONSULTANTS CO. LTD.	
ATTENTION	INITIALS
WER	GRB
PLB	
Rec'd MAR 1 1971	
COPY TO	
REPLY	DATE INITIALS



TRANSIT

Municipal Planning Consultants CO. LTD.



EVALUATION & ALTERNATIVES FOR EXPANSION

TRN-O
69

*This volume was donated to
the University of Toronto by
Derek J.W. Little
President, Municipal Planning
Consultants Co. Ltd.*

See Bob Callentyne
re transit study for Georgetown (possibility)
248-3901.


GOVERNMENT
Publication



Evaluation & alternatives for expansion

An evaluation of the GO Transit lakeshore service
and a consideration of alternatives for future expansion





Digitized by the Internet Archive
in 2024 with funding from
University of Toronto

<https://archive.org/details/39201204070071>

JANUARY 1969

(a reprint)

Contents ...

1	Introduction	1
2	Evaluation of GO Transit lakeshore service	3
2.1	Growth of riding	4
2.2	Impact on parallel highways	6
2.3	GO Transit's market	8
2.4	GO Transit encourages development	9
2.5	Capital costs	10
2.6	Operating costs	11
3	Expansion of lakeshore service	12
3.1	Increase in capacity	12
3.2	Expansion to Oshawa	13
3.2.1	Full rail service	14
3.2.2	Shuttle bus service	14
3.3	Expansion to Hamilton	15
3.3.1	Full rail service	15
3.3.2	Shuttle bus service	15

4	Expansion in other directions	16
4.1	Full service	17
4.1.1	The alternatives	17
4.1.2	Georgetown	19
4.1.3	Newmarket	22
4.1.4	Newmarket via Richmond Hill	24
4.1.5	Richmond Hill	25
4.1.6	Streetsville	26
4.2	Limited service	28
4.2.1	Newmarket (via Richmond Hill), Richmond Hill and Streetsville	29
4.2.2	Stouffville	30
4.2.3	Malvern and Locust Hill	31
5	Long term expansion	32
5.1	Statement of planning objectives	32
5.2	Rights-of-way and alternative modes	34
5.3	Possibilities for future mass transportation systems	35
APPENDIX 1	Estimated costs of full service alternatives	
APPENDIX 2	Estimated costs of limited service alternatives	
APPENDIX 3	List of published GO Transit reports	

1

Introduction

Early in 1965, the Metropolitan Toronto and Region Transportation Study made a recommendation to the Ontario government to introduce an experimental commuter rail service along the lakeshore east and west of Toronto. This followed extensive studies of the rail facilities that were available within the region and their suitability for various levels of commuter rail service. The lakeshore line was chosen because much of the required track capacity already existed, and the potential patronage was the most promising.

The GO Transit service went into operation during May, 1967 and it was understood at that time that it would take between two and three years of full operation before a comprehensive evaluation program could be completed. However, the rapid acceptance of the service by many lakeshore commuters has stimulated residents of other communities to demand a similar service. This high degree of public interest in commuter rail has prompted the government

to carry out an earlier evaluation of the present service and to consider the feasibility of expansion of this type of service. As a result, this report has been prepared.

2 Evaluation of the GO Transit lakeshore service

When the Ontario government announced its intention to proceed with the GO Transit commuter rail service, emphasis was placed on the experimental nature of the scheme. It presented an opportunity to analytically assess the impact of this type of service and to evaluate the role that commuter rail might play in a more balanced transportation system.

Consistent with this important objective, much data has been accumulated on many aspects of the GO Transit experiment. It is not the purpose of this report to present this in any detail especially as many of the findings have already been published. This section merely outlines some aspects of the lakeshore service which are considered to be relevant to this report.

-
1. A list of the GO Transit reports which have been published appears in Appendix 3.

2.1 Growth of riding

The initial growth of GO Transit patronage was rapid, reflecting its immediate acceptance by many lakeshore commuters (FIGURE 1). Much



of the growth during the first four months was due to the improvements in service which occurred as the new equipment became available for operation. Full planned schedules were introduced at the beginning of September, 1967 and riding continued to show a high rate of growth — following a seasonal uptrend traditionally experienced by commuter rail systems.

The traditional seasonal pattern was again observed after the winter quarter, when carryings began to drop. In GO Transit's case, this seasonal downtrend was emphasized by the significant number of riders who switched to the T.T.C. subway during May, 1968, when the extensions of the Bloor-Danforth line were opened.

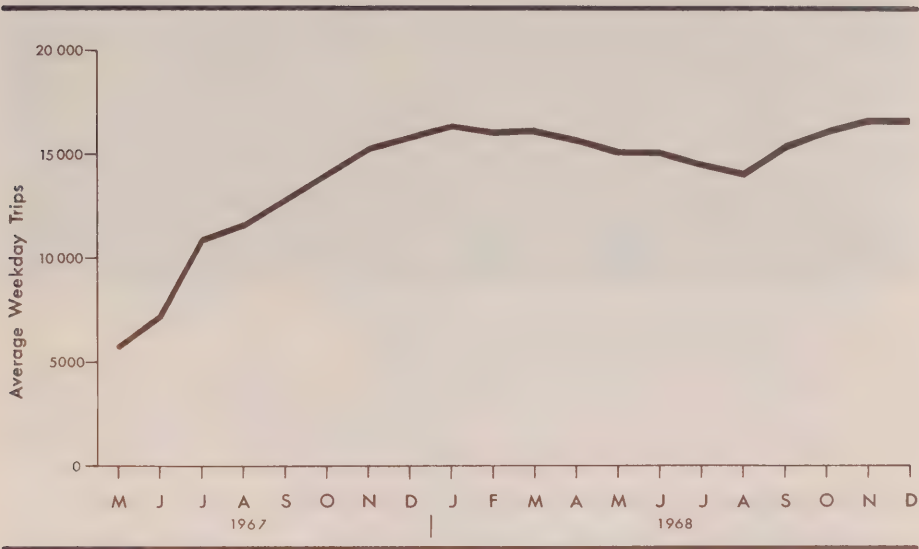


FIGURE 1

At the end of August 1968, riding recommenced on a seasonal uptrend, and, during October, averaged 16,000 on weekdays — a 15% increase over the same month in 1967.

During the twelve month period ending August 31, 1968 — the first year of full service — a total of 4,500,000 trips were taken on GO Transit. Over this period weekday trips averaged 15,100, while riding on Saturdays and Sundays averaged 5,300 and 2,500 respectively.



2.2 Impact on parallel highways

An important part of the impact evaluation program was to determine the effect that GO Transit might have on parallel highway facilities.

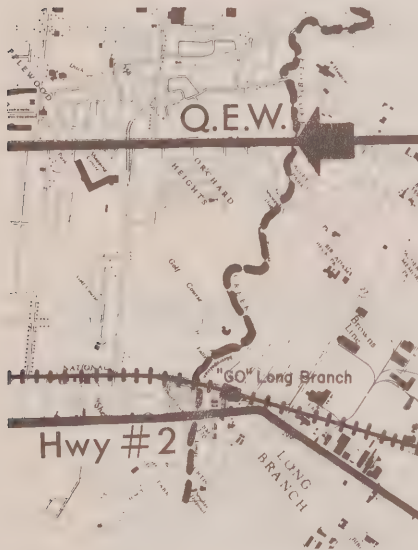


FIGURE 2

In the west, the Queen Elizabeth Way is clearly the dominant highway linking the lakeshore communities with central Toronto. Counts taken on this highway during late April, 1968 revealed that approximately 4,700 vehicles crossed the Etobicoke Creek during the peak hour (5:00 to 6:00 p.m., westbound).

It was estimated that, had GO Transit not been operating, around 450 additional vehicles would have been traveling westbound along this section of the Q.E.W. between 5:00 and 6:00 p.m. This would have represented an

increase over the measured volume of around 9% and would have boosted the peak hourly volume close to the theoretical maximum of 5,300 vehicles per hour.

The Q.E.W., at the section measured, has experienced an annual growth rate of around 6% over the last few years. This suggests that GO Transit has delayed the point at which the capacity of the highway will be reached by between one and two years.



FIGURE 3

In the east, it was estimated that the volume of westbound traffic travelling along Danforth Avenue, St. Clair Avenue East and Kingston Road at the intersection of these roads with Kennedy Road during the peak morning hour would have been increased by at least 750 vehicles had GO not been operating (see FIGURE 3).

This would represent a 17% increase on the measured peak volume of 4,300 vehicles on these roads. It was not possible to estimate the increase that would have occurred on any one of these roads, but clearly GO Transit has reduced peak volumes.

2.3 GO Transit's market

Surveys have shown that GO Transit's market penetration (trips actually taken on GO as a percentage of all trips taken within scope of GO) tends to increase as distance from Toronto increases (FIGURE 4).

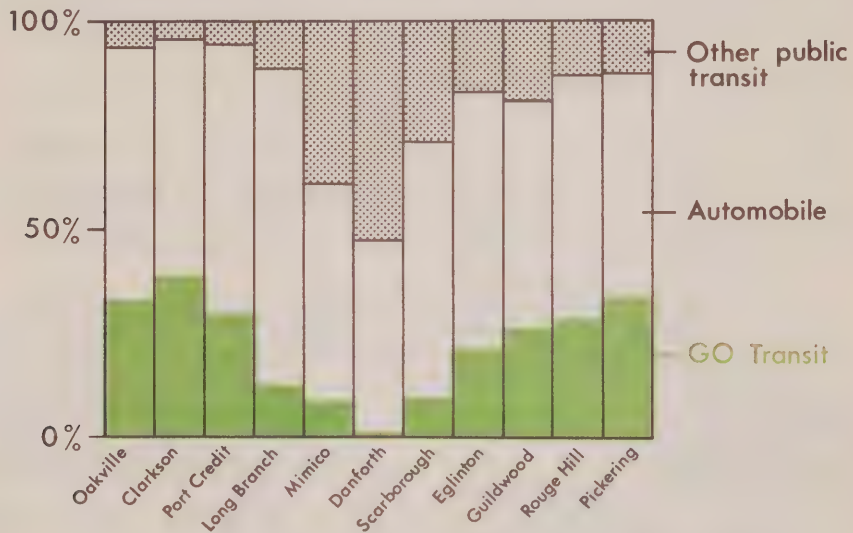


FIGURE 4

This increasing market share with distance reflects the decreasing availability of alternative public transportation.

(It should be noted that, because of the limited service west of Oakville, the surveys did not examine Hamilton, Burlington and Bronte).

2.4 GO Transit encourages development

A survey conducted among peak GO Transit riders revealed that nearly 20% had relocated within the two years prior to the survey and had been influenced by GO Transit in their choice of location. This suggests that the commuter rail service has had a significant effect in attracting people to the lakeshore communities who might not otherwise have located there.

This influx of rail-oriented commuters has been a factor in stimulating residential development in areas within convenient access to many GO stations. Probably the most significant example of such development has occurred at Port Credit, where 600 apartment units have been built, and a further 800 are planned or under construction. All these units are within a short walk of the station.

Buildings in locations such as these are likely to attract a large proportion of GO users. Surveys have revealed that the convenience of access of home and work locations to GO stations is an important factor in determining whether GO Transit is used for the trip. Thus as many as two-thirds of the people who live within a short walk of a GO station and who work within a short walk of Union station, use GO Transit. This market share decreases as the convenience of access at either end decreases.

2.5 Capital costs

The capital costs incurred in implementing the service are outlined below:

	\$
GO Transit share of total	
track and signal cost:	8,000,000
Stations, platforms,	
parking lots, underpasses	
etc:	4,600,000
Rolling stock*:	11,500,000
	<hr/>
TOTAL CAPITAL COST:	\$24,100,000
	<hr/>

* Includes 14 additional coaches brought into service during October and November, 1968.

2.6 Operating costs

The results for the year ending August 31, 1968 are summarized below:

	\$
Total GO Transit	
operating costs:	5,128,000
LESS Net revenue:	2,524,000
	<hr/>
OPERATING DEFICIT	\$2,604,000
	<hr/>

3

Expansion of lakeshore service

Any expansion of the present GO Transit lakeshore service would require additional capital funds and therefore must be considered in the same way as the possibilities for expansion along other rail lines.

The various possibilities for expansion of the present service are discussed below:

3.1 Increase in capacity

With present schedules and equipment, the maximum number of riders that could be carried in both directions in each peak period is between 9,000 and 10,000 depending on the degree of crowding which the commuters are prepared to accept. (Currently, peak volumes are between 6,000 and 6,500). With continued residential development in the outlying communities, this level of

peak riding could be reached within three years. At this time, the service will have reached a condition of peak saturation, and thereafter its growth within peak commuting periods will be minimal.

If this situation is to be avoided, the peak capacity of the system will have to be increased. This could be achieved by either operating more peak trains, thereby necessitating a reduction in headways; or by increasing the capacity of the present trains. The former might require additional capital expenditure on track modifications (no estimate is presently available) as well as on equipment, while the latter would require the introduction of double-deck coaches on the most crowded trains.

3.2 Expansion to Oshawa

There are an estimated 1,450 daily trips presently being made between Central Toronto and the communities of Oshawa, Whitby and Ajax. Approximately 550 of these trips are already being taken on GO Transit, leaving a total of 900 additional trips that would be in-scope of the rail service if it were extended to Oshawa.

3.2.1 Full rail service

C.N.R. estimates that a capital expenditure of \$12 million on track and signals would be required if full rail service were to be extended to Oshawa. In addition, stations and car lots would need to be constructed and extra equipment would be required -- a further investment of approximately \$2 million.

3.2.2 Shuttle bus service

An alternative to extending rail service to Oshawa which would not require a large capital investment would be to operate a shuttle bus service between the Pickering terminal and Ajax, Whitby and Oshawa. The Gray Coach Bus Line have indicated interest in operating such a service, but no commitment has been made at this stage.

This service could be provided to connect with most trains during the day. It would furnish an interesting and valuable demonstration of the feasibility of operating coordinated train and shuttle bus service.

3.3 Expansion to Hamilton

Around 250 weekday trips are presently being taken on the four trains that operate west of Oakville. If full rail service were extended to Hamilton, it is estimated that approximately 1000 weekday trips would be made between Hamilton, Burlington and Bronte, and Toronto. This would represent a net gain to the system of between 700 and 800 trips.

3.3.1 Full rail service

C.N.R. estimates that an additional expenditure of approximately \$30 million would be required for tracks, bridges and signals west of Burlington if full peak service were to be extended to Hamilton. This is over three times the GO Transit share of the total track and signal costs for the present lakeshore line. In addition, expenditure would be required on rolling stock and operating costs would increase significantly.

3.3.2 Shuttle bus service

An alternative to full rail service could be provided by operating shuttle buses between the Oakville GO station and Bronte, Burlington and Hamilton. Such a service could be provided to connect with most of the trains throughout the day.

4 Expansion in other directions

This section examines the possibilities of operating commuter rail service along the various rail lines that presently exist within the region.

A report¹ prepared by De Leuw, Cather and Company in 1963, following a study of these rail lines, stated that certain levels of commuter service could be introduced without substantial alterations to track and signals. However, conditions on several lines have changed since 1963, and the costs for the necessary signal and track modifications quoted below are the most recent available from the railway companies.

The annual operating costs are estimated from experience with the lakeshore service, and the revenues are based on the present GO Transit fare structure. The estimated numbers of weekday trips are obtained from data derived from MTARTS home interview surveys.²

-
1. Study of Existing Railway Lines - prepared by De Leuw, Cather and Company for the Metropolitan Toronto and Region Transportation Study (MTARTS), October, 1963.
 2. 1964 Home Interview Survey - prepared by Traffic Research Corporation for MTARTS.
Fall, 1967 Household Survey - prepared by Recon Research Consultants Ltd for MTARTS.

The table below details the estimated weekday trips that would be made on these lines.

	Trips per weekday
Georgetown	8,700
Newmarket	7,200
Newmarket via Richmond Hill	6,700
Richmond Hill	6,500
Streetsville (Milton)	4,400
Malvern	3,200
Stouffville	3,000

Because of low patronage estimates, the last two lines have not been considered further for full service, but are discussed with regard to possible limited service in section 4.2.

These patronage estimates include only those people who would either start or finish their trip at Union Station, or make a convenient transfer between the commuter service and the Bloor subway (transfer would be possible on all lines except Richmond Hill and Malvern). Thus riders boarding at, say, Georgetown and exiting at Weston would not be included in the trip estimates.

The various lines are discussed below.

4.1.2 Georgetown

This utilizes existing tracks on the C.N.R. Weston and Halton subdivisions, providing service between Toronto Union Station and Georgetown (MAP 2).



MAP 2

This service would provide a diagonal access from central Toronto to the north-west where none now exists. 29 miles in length, the line would link the expanding communities of Georgetown, Brampton and Bramalea with the industrial areas of Malton and Weston, with the Bloor Street subway, and with downtown Toronto. The line also runs directly alongside the Woodbine racetrack.

The patronage estimates quoted below do not allow for any trips other than those to or from Union Station or the Bloor subway. However, there could be a significant number of potential trips between Georgetown, Brampton and Bramalea, and the industrial areas of Weston and Malton.

The patronage figures also do not include potential trips to and from the Toronto International Airport. The location of the airport terminal with regard to the rail line is such that an intermediate mode of transportation would be required (such as bus or limousine) to effect the transfer of passengers, and this would tend to inhibit riding.

The potential patronage that would be generated by the airport is tentatively estimated as being between 200 and 400 trips per day initially. The majority of these would be airport employees and visitors. It is not expected that the commuter rail service would attract a significant number of actual flight passengers, due to the very wide dispersion of their origins (or destinations), the inconvenience of transferring with luggage, and the high proportion (50%) of business trips.

Estimates are not available for the number of additional trips that would be taken if service were provided to Woodbine racetrack. The racing season lasts approximately four months and attracts a large number of people. It is felt that sufficient numbers of these could be attracted to commuter rail to represent a significant number of additional trips per year.

This line appears to have many geographic advantages. However, these are offset by the vast capital cost of providing the service. C.N.R. estimates that the necessary track and signal reconstruction would cost approximately \$24 million. An additional expenditure, estimated at \$6 million, would be required for grade separation of the Canadian National and Canadian Pacific tracks, where the two lines intersect at west Toronto.

Estimated weekday trips:	8,700	
Estimated annual operating deficit:	\$1,400,000	\$162 /
Total estimated capital cost:*	\$40,400,000	daily train.

* See Appendix I for more detailed breakdown of estimated costs.

\$4640 /

4.1.3 Newmarket

Service to Newmarket would utilize the existing tracks on the C.N. Newmarket subdivision from Toronto Union Station (MAP 3).



MAP 3

This would link the northern communities of Newmarket, Aurora, King City and Maple with the aircraft plants around Downsview Airport, the Bloor Street subway, and downtown Toronto. The total track length would be 34 miles.

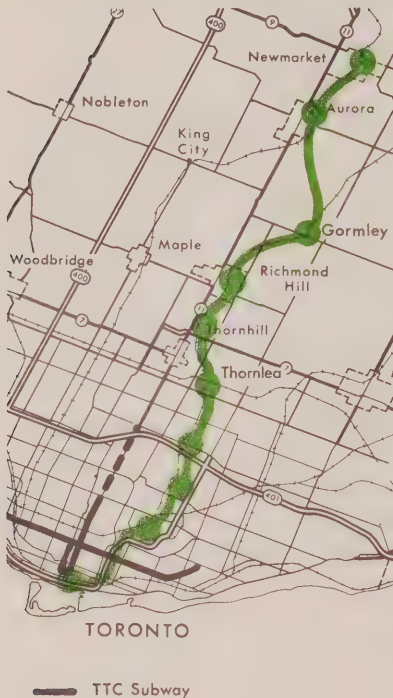
As for the Georgetown line, the patronage estimate includes only those trips to or from Union Station and the Bloor subway. There could be a significant number of trips oriented to the Downsview area.

An undesirable feature of this line is that it would compete to some extent with the Yonge Street subway extension. Allowance has been made for this in the patronage estimate. (In the event of a rapid transit service being incorporated into the Spadina Expressway, patronage on the Newmarket line would be further reduced).

Estimated weekday trips:	7,200
Estimated annual operating deficit:	\$2,000,000
Total estimated capital cost:	\$35,600,000

4.1.4 Newmarket via Richmond Hill

This route considers the possibility of linking the C.N. Newmarket and Bala subdivisions by building a new rail line of approximately 5 miles in length from north of Gormley to just south of Aurora (MAP 4).



MAP 4

This would provide service to Newmarket, Aurora, Richmond Hill and Thornhill and would connect with Toronto Union Station via the C.N. industrial spur and the C.P. Leaside tracks, a total length of 36 miles.

South of Thornlea, this line would compete with the T.T.C. Yonge Street subway extension. Account has been taken of this in the patronage estimate.

Estimated weekday trips:	6,700
Estimated annual operating deficit:	\$2,200,000
Total estimated capital cost:	\$27,000,000

4.1.5 Richmond Hill

This mainly utilizes the existing C.N. Bala subdivision but switches to the C.N. industrial spur just south of Oriole, and thence to the C.P. tracks via Leaside to Toronto Union Station (MAP 5).

The route is considered to extend north of Richmond Hill to Wesley Corners (to the east of Aurora), thus allowing commuters to drive in from Newmarket and Aurora. The total track length would be 30 miles.



This line would experience competition from the Yonge Street subway extension and the estimates take account of this.

Estimated weekday trips:	6,500
Estimated annual operating deficit:	\$1,700,000
Total estimated capital cost:	\$25,000,000

4.1.6 Streetsville

This utilizes the C.P. Galt subdivision between Milton and a station situated at Islington near the western terminus of the Bloor subway line, a track length of 24 miles (MAP 6).



MAP 6

This route would provide direct subway access to residents of Erindale, Streetsville and Milton. If necessary, the line could be routed from Streetsville to Brampton rather than Milton.

Such a service would provide an interesting demonstration of the practicality of commuter rail linking suburban communities with the subway system. However, the route is such that it would compete in places with the existing lakeshore GO service, which would clearly have a time advantage for passengers destined to the downtown Toronto area.

Estimated weekday trips:	4,400
Estimated annual operating deficit:	\$1,600,000
Total estimated capital cost:	\$11,600,000

4,400 trips - 380 h. 17.6

or \$2700 per passenger

4.2 Limited service

The various lines were examined to determine whether a limited service of two or three trains during each peak period could be introduced without the need for major capital expenditure on tracks, bridges and signals.

The feasibility report produced by De Leuw, Cather in 1963 maintained that limited service could be introduced along the Georgetown and Newmarket lines with little modification of the existing facilities. C.N.R. advise, however, that even a limited service could not be accommodated under present conditions on either line without substantial track reconstruction. Therefore the following lines are considered for limited service:

Newmarket via Richmond Hill

Richmond Hill

Streetsville (Milton)

Stouffville

Malvern (Locust Hill)

A limited service of two or three trains per peak period would not allow for much flexibility in the

commuting times of its patrons. This would tend to inhibit riding and some allowance has been made for this in the patronage estimates.

4.2.1 Newmarket (via Richmond Hill) , Richmond Hill , and Streetsville

The routes are exactly as shown for full service in sections 4.1.4, 4.1.5, and 4.1.6. Patronage (based on three trains in each peak period with no weekend service) and cost estimates are summarized below:

	<u>Newmarket</u>	<u>Richmond Hill</u>	<u>Streetsville</u>
Weekday trips:	2,800	2,750	1,900
Annual operating deficit:	\$210,000	\$130,000	\$170,000
Capital cost:	\$9,000,000	\$7,400,000	\$5,300,000

See Appendix 2 for more detailed breakdown of estimated costs.

4.2.2 Stouffville

This route utilizes the existing tracks of the C.N. Kingston and Uxbridge subdivisions between Union Station and Stouffville, a distance of 28 miles (MAP 7).



At present, the patronage estimate for limited service is low (1,250 per weekday). However, proposed future development just east of Stouffville could increase estimated patronage in a few years time.

It is estimated that around \$4 million would be required for track and signal modifications, building of stations and parking lots and purchasing of sufficient equipment for a limited service of three trains in each peak period.

4.2.3 Malvern and Locust Hill

C.P. has indicated that limited service could be provided along its Belleville and Havelock subdivisions between Toronto Union Station and Malvern for a capital cost of \$125,000 on tracks and signals (MAP 8).

The service could be extended further east to Locust Hill for an additional expenditure of \$625,000.

An estimated \$2.7 million would be required for stations and equipment if the service was to terminate at Malvern, with an additional capital expenditure of \$400,000 required to extend service to Locust Hill.



Patronage estimates alone could not justify the service at this time. However, in view of the proposed Ontario Housing Corporation development at Malvern, this line might well be considered in the future.

5

Long term expansion

5.1 Statement of planning objectives

This report has so far examined the possibilities of operating a commuter rail system over existing rights-of-way. There are, however, certain disadvantages inherent in operating over railway-owned rights-of-way. These are discussed in section 5.2.

No matter what mode of transportation may be chosen, it is considered important that any expansion of GO Transit should be planned with regard to long-term regional policies. The Metropolitan Toronto and Region Transportation Study concluded that transportation planning could not be divorced from overall regional planning and stressed the important role that planned public transportation would play in achieving specific regional development objectives.

These are the main points that should be considered with regard to future expansion:

- *GO Transit should be planned as part of the overall future transportation requirements of the region.*
- *This comprehensive transportation plan should be an integrated part of an overall development plan for the region.*
- *Accepting the need for long-term planning, consideration should be given to public transportation modes other than those operating on rail-way-owned rights-of-way.*

5.2 Rights-of-way and alternative modes

The use of existing rail lines for future GO Transit expansion has certain associated disadvantages. All the possibilities for full service put forward in section 4.1 require substantial government expenditures on track, signals and bridges. In spite of this, however, the right-of-way is still owned by the railway company and decisions regarding headways and schedules have to be made with its approval. In addition, operation of the service by railway staff will continue to incur unrealistic expense unless changes in the present operating agreements can be negotiated with the labour Unions.

For these reasons, it is essential to examine other alternatives. Purchasing entirely new rights-of-way would be extremely expensive. However, use could be made of existing Hydro rights-of-way, and facilities for public transportation systems could be incorporated into future highway routes.

The choice of mode could range from a conventional rail system to an express bus service using an exclusive right-of-way or -- more futuristically -- an air-cushioned monorail.

A few possibilities for future rights-of-way are presented in section 5.3 below.

5.3 Possibilities for future mass transportation systems

MAP 9 shows the possible routes that could be utilized for public transportation systems.



The following highways are planned which could incorporate a public transit system in their design:

Highway 404 (Don Valley Parkway extension) north to east of Newmarket.

Highway 407 from Highway 27 east to Markham.

Any plan to enlarge Highway 400 would present a third possible transit route.

There is in existence a Hydro right-of-way just north of Finch Avenue, and this could be used in conjunction with one, or a combination, of the above highway routes to link the transit system with the T.T.C. Yonge Street subway.

At a future date, the transit system could probably be routed direct to the downtown area via a Highway 400 extension and/or through the Don Valley.

In view of the high cost of implementing any expansion of GO Transit and in view of the socio-economic impact that such expansion would have on areas affected by it, the use of the alternative modes and routes for public transportation suggested above should be immediately investigated to determine whether they offer any significant advantages over the use of existing rail lines and to determine the extent to which such use can be successfully integrated with existing or proposed highways.

APPENDICES

APPENDIX 1

APPENDIX I: POSSIBLE LINES FOR FULL SERVICE - Comparison of estimated operating and capital costs

[illegible]

APPENDIX 2

APPENDIX 2: POSSIBLE LINES FOR LIMITED SERVICE - Comparison of estimated operating and capital costs

	Newmarket via Richmond Hill	Richmond Hill	Streetsville	Stouffville
<u>NO OF TRIPS</u>				
per weekday:	2,800	2,750	1,900	1,250
per year:	703,000	690,000	477,000	314,000
<u>ANNUAL COSTS</u>				
Operating Cost:	\$ 630,000	\$ 540,000	\$ 410,000	\$ 510,000
Revenue:	420,000	410,000	240,000	170,000
ANNUAL OPERATING DEFICIT	210,000	130,000	170,000	340,000
<u>CAPITAL COSTS</u>				
Tracks, signals etc:	2,000,000	1,000,000	500,000	500,000
Stations, lots etc:	1,800,000	1,600,000	1,200,000	1,000,000
Rolling stock:	5,200,000	4,800,000	3,600,000	2,700,000
TOTAL CAPITAL COSTS:	9,000,000	7,400,000	5,300,000	4,200,000
All capital costs (including tracks, signals etc) are GO Transit estimates.				

APPENDIX 3

Below are listed the major reports which have been published since the inception of the commuter rail project.

A. General Reports

1. GO TRANSIT: A NEW APPROACH TO URBAN TRANSPORTATION.

The history of the commuter rail project from conception to inauguration and a description of equipment, stations, scheduling, track layouts, fares etc.

2. PEOPLE ON THE GO - C-series reports

C1: May to December, 1967
C2: January to March, 1968
C3: April to June, 1968

These describe the riding patterns and trends which have occurred on the commuter rail system.

C4 (in preparation) will take an overall look at many aspects of the GO Transit experiment and the impact it has had since its inauguration.

B. Technical Reports

1. ON-TRAIN SURVEY, MAY 17, 1967 (SPECIAL REPORT #2)

MTARTS and Recon Research
Consultants, February, 1968.

Description of the characteristics, travel habits and opinions of 1109 persons using the CNR commuter service in the western lake-shore corridor, immediately prior to the introduction of GO Transit, and comparisons with a 1961 survey.

2. ON-TRAIN SURVEY, July, 1967
(SPECIAL REPORT #3)

MTARTS and Recon Research
Consultants Ltd., February, 1968.

Attitude and behaviour of 3,219 peak
period rail riders in the 7th week of
GO Transit service.

3. ON-TRAIN SURVEY, NOVEMBER 1, 1967
(SPECIAL REPORT #4 PART A)

MTARTS and Canadian Facts Ltd.,
March, 1968.

Attitude and behaviour of 5,054 peak
period rail riders outbound from Union
Station in the 24th week of GO Transit
service (9th week of full service).

4. ON-TRAIN SURVEY, NOVEMBER 1, 1967
(SPECIAL REPORT #4 PART B)

MTARTS and Opinion Research
Corp. March, 1968.

Attitudes and behaviour of 2,042 off-
peak riders in the 24th week of GO
Transit service.

5. DESIGN TO MEASURE THE IMPACT OF THE
GO TRANSIT COMMUTER RAIL SERVICE
(SPECIAL REPORT #5)

MTARTS and De Leuw, Cather Co, Ltd.,
December, 1967.

Objectives, methods and timing of the
various surveys, analyses and studies
forming a two-year program, leading to
fact-supported conclusions about the
role and potential of commuter rail
services in this and possibly other
regions.

6. VEHICLES AND PERSON COUNTS ON OTHER
MODES BEFORE GO TRANSIT OPERATION
(SPECIAL REPORT #6)

MTARTS and Kates, Peat, Marwick.
March, 1968.

Describes how the main east-west movement of vehicles and persons in the two lakeshore corridors was distributed among the facilities and services available before the introduction of GO Transit.

7. BENCHMARK HOUSEHOLD SURVEY, MAY, 1967
(SPECIAL REPORT #7)

MTARTS and Recon Research
Consultants Ltd., March, 1968.

Describes the design, execution and findings of a survey of 15,000 representative households. Defines the basic structure of the rail-susceptible travel market, the level of awareness of GO Transit, and probability of use.

8. SECOND HOUSEHOLD SURVEY
(SPECIAL REPORT #9)

MTARTS and Recon Research
Consultants Ltd., April, 1968.

Identifies the rail share of each segment of the corridor travel market, and the reasons for non-use of various identifiable groups, leading to marketing suggestions for increasing the rail share.

